

SG 917

WHAT IS CLAIMED IS:

CLAIMS

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1. An exercise machine comprising:

first means for enabling a user to selectively apply positive resistance to a first leg and/or a second leg independently or simultaneously, said resistance applied during pushing and/or pulling motions with said first leg and/or said second leg moving in an opposite or a similar direction relative to said second leg and/or first leg, respectively; and

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second means for enabling said user to selectively apply positive resistance to a first arm and/or a second arm independently or simultaneously, in different or similar directions, said resistance being applied during pushing and/or pulling motions; and

third means for facilitating abdominal crunches, leg tucks, and/or back hyperextensions while exercising said legs and said arms via said first and second means.

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2. The exercise machine of Claim 1 wherein said third means includes a seatback linked to said first and/or second means so that actuation of said first or second means causes actuation of said seatback, and wherein force applied via said first arm and/or second arm affects resistance felt by said first leg and/or said second leg and affects resistance to motion of said seat back.

3. The exercise machine of Claim 2 further including fourth means for enabling said user to immediately change their exercise focus from one muscle group to another muscle group while performing a similar exercise motion and without changing positions or making adjustments to said exercise machine.

4. The exercise machine of Claim 3 wherein said fourth means includes mechanical links between said first means, said second means, and said third means, said mechanical links interconnecting said first, second, and third means via swivel connectors.

5. The exercise machine of Claim 4 wherein said exercise machine includes a stable seat for accommodating said user to facilitate operation of said first, second, third, and fourth means.

6. The exercise machine of Claim 5 further including fifth means employed by said first and second means for enabling said user to selectively adjust resistance levels felt by said arms and legs at different portions of said similar exercise motion to enable target loading of specific muscles or sections thereof.

7. A full-body exercise machine comprising:
a sitting support;
second means for providing positive resistance to motion of a user as said user moves one or more limbs into an extended position when sitting on said sitting support; and

third means for providing positive resistance to motion of said one or more limbs as said user moves said one or more limbs into a compressed or curled position when sitting on said sitting support, said second means and said third means configured so that resistance affecting a first limb of said one or more limbs affects
10 resistance applied to a second limb of said one or more limbs.

8. The exercise machine of Claim 7 wherein said one or more limbs includes one or more arms, one or more legs, torso, and one or more feet.

9. The exercise machine of Claim 8 wherein said first means includes a stable frame; wherein said sitting support is rigidly mounted on said frame; and wherein said

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frame includes main support beam having a first end and a second end, said first end connected to a first stabilizer, said second end connected to an adjustable vertical support beam that is attached to a second stabilizer, said second end higher than said first end as determined by the height of said vertical support beam, which is adjustable.

10. The exercise machine of Claim 9 wherein said second means includes a first tension band, a first end of said tension band connected to said frame, a second end of said tension band connected to a back support member, said back support member attached to a wheel resting on said frame so that when said user extends said one or more limbs to actuate said back support member, said wheel rolls along a main support beam of said frame, causing said tension band to extend.

11. The exercise machine of Claim 10 wherein said second means includes a second tension band, a first end of said second tension band connected to said frame, a second end of said second tension band connected to said back support member so that when said user tucks said one or more limbs to actuate said back support member, said wheel rolls along a main support beam of said frame, causing said tension band to extend.

12. The exercise machine of Claim 10 wherein said back support member is mechanically linked to an arm member at a first swivel connector at a pre-selected position along said arm member, and wherein said arm member is connected to said frame at a second swivel connector positioned on said arm member above said first swivel connector and in front of said stable sitting support so that said stable sitting support is positioned between said wheel and said second swivel connector on said frame.

13. The exercise machine of Claim 12 further including a first foot support and a second foot support mounted to a first foot member and a second foot member,

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respectively, said first and second foot members connected to said frame in front of said second swivel connector via a third swivel connector, thereby allowing said first
5 and second foot supports to move in a pendulum motion relative to said frame.

14. The exercise machine of Claim 13 wherein said first foot member and said second foot member are connected to a first end of a first linking rod and to a first end of a second linking rod at fourth and fifth swivel connectors, respectively, which are positioned between said third swivel connector and said first and second
5 foot supports on said first and second foot members, respectively.

15. The exercise machine of Claim 14 wherein a second end of said first linking rod is connected to a sixth swivel connector or a seventh swivel connector positioned above or below said second swivel connector, respectively, on said arm member, and wherein a second end of said second linking rod is connected to an eighth swivel connector or a ninth swivel connector positioned below or above said
5 second swivel connector, respectively, on said arm member.

16. The exercise machine of Claim 9 wherein said second means and said third means include an adjustable swivel connector having a pivot resistance that is user-adjustable, said adjustable swivel connector connecting one or more rigid members of said full-body exerciser to said frame, said one or rigid members
5 accommodating said one or more limbs of said user.

17. A full-body exercise device comprising:
a frame having a seat mounted thereon;
arm and foot levers linked to said frame; and
a seatback linked to said frame and said arm and foot levers so that actuation
5 of said arm and foot levers causes actuation of said seatback and not said seat.

18. The exercise device of Claim 17 further including first means for selectively applying resistance to said arm and foot levers to adjust said full-body exercise machine for efficient aerobic or anaerobic exercise; wherein said seat is stable; and wherein said first means includes one or more tension bands or resistive swivel connectors connected between said frame and links between said seatback and said frame and/or between said frame and links connecting said arm and foot levers to said frame, and further including means for selectively uncoupling said seatback with said arm and foot levers to prevent actuation of said seatback in response to actuation of said arm and foot levers and stabilizing said seatback relative to said frame.

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19. A full-body exercise device comprising:
a seatback;
one or more handles connected to one or more arm levers;
one or more foot supports connected to one or more foot levers;
a source of resistance;
means for linking force applied to said seatback to said one or more arm and foot levers and visa versa so that when said force is applied to said seatback, said one or more arm levers, and/or said one or more foot levers, said force works against said source of resistance.

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20. The exercise device of Claim 19 further including a stable seat for accompanying said seatback, said seatback being movable in response to actuation of said one or more arm and foot levers by said user or direct application of force on said seatback by said user.

21. The exercise device of Claim 20 wherein said means for linking includes linking rods, said linking rods readily connectable in various configurations including: a first configuration wherein pulling back on said one or more arm levers causes first and second foot levers to move backward together; a second configuration wherein pulling back on said one or more arm levers causes said first foot lever to move back

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while said right foot lever moves forward; and a third configuration wherein pulling back on said one or more arm levers causes said first foot lever to remain stationary while said second foot lever moves; and a fourth configuration wherein pulling back on said one or more arm levers causes both foot levers to move together in similar directions.

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22. The exercise device of Claim 21 wherein pulling back on said one or more arm levers causes said seatback to move forward, and moving said seatback forward causes said one or more arm levers to move back, thereby enabling a rowing action and abdominal crunch action to occur simultaneously.